

## ON FLOSCULARIA CUCULLATA, SP. N.

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## PLATE XVI.

*Specific characters.*—Corona divided into three lobes without knobs, the dorsal lobe much the largest, incurved and cowl-shaped, with two short horn-like prominences close together on the back; the two ventral lobes small; setæ, a double row, one row pointing inwards, the other outwards, fringing the whole circumference of the margin of the coronal cup; the inner row consisting of very short closely-set setæ, and the outer row of long, radiating setæ. Peduncle very short. Eyes absent in adult.

I first met with this large and handsome Rotiferon in the summer of 1881, but having found only a single specimen, and this one not in a healthy condition, I was at that time unable to make a satisfactory diagnosis, otherwise it would have been described and figured long ago in Dr. Hudson and Gosse's "Monograph." Although I searched for it diligently ever since, now quite twelve years, I failed to find it again until the last week in September of this year (1893), when I had the good fortune to discover it in fairly large numbers and in prime condition near the same locality where I had met the first example, namely, in a marsh pool between Blairgowrie and Dunkeld, in Perthshire, N.B., perched on confervoid filaments attached to *Utricularia vulgaris*, and on the rootlets of *Lemna*.

The most remarkable peculiarity of *F. cucullata* consists in the shape and structure of the corona, the large dorsal lobe recalling to mind a monk's cowl, and resembling in this respect the corona of *F. Hoodii*, but minus the long sleeve-like, flexible processes characterizing this species. It has, however, two very short processes on the back of the dorsal lobe, greatly resembling the pimples of antennæ (Fig. 2), but bearing no

setæ, and therefore probably not representing sense organs. These pimples give a very characteristic appearance to the creature when seen in front view, Fig. 2. The two smaller ventral lobes are as shown in Figs. 1 and 2.

When the animal contracts its head, the dorsal lobe folds inwards first, and the two ventral lobes overlap it, leaving a brush of setæ projecting on either side, which finally are also drawn into the cup. In expanding the ventral lobes appear first; then the dorsal lobe moves out very slowly, the creases disappearing very gradually; then suddenly the lobe flops out in cowl-shape.

The long, straight, stiff setæ forming the outer rows stretch out and radiate in all directions; the very small setæ of the inner row are also straight and stiff, and prevent the escape of the small organisms which have made the fatal mistake of entering this alluring flowerlike cup.

The semi-circular wreath of vibratile cilia at the bottom of the vestibule is difficult of observation, owing to the condition of the skin; there are, namely, a profusion of moveable greyish granules floating in the fluid between the outer and inner membrane of the skin that rush backwards and forwards in definite channels at every movement of the animal, and render the corona and anterior part of the body rather opaque. These granules are more or less present in all floscules, but more conspicuously in *F. ambigua*, *F. algicola*, and *F. cucullata*.

The coronal cup is very deep and the body elongated in shape and constricted in the middle, forming an elegant waist.

I have failed to find lateral antennæ, but Mr. Dixon-Nuttall has observed a single antenna on the dorsal side of the neck in specimen sent to him. Lateral canals and vibratile tags are present, but I have not been able to find a contractile vesicle. The remainder of the anatomy is quite normal and requires no further remark.

The animals inhabit large, clear, transparent tubes which are fixed with marked preference to small filaments of a parasitic alga, when larger leaflets were present in abundance.

I had the good fortune to see a *male* hatched, which has the peculiarity of possessing a prominent dorsal antenna, as seen in Fig. 3; all other males of Floscules, so far as observed, having no such antenna; it has also two small eyes close together.

I have observed the three kinds of eggs in the hyaline tubes of *F. cucullata*, the ordinary female (parthenogenetic) summer eggs, the male eggs, which are smaller and rounder, and the winter or resting eggs, which are larger and denser, and furnished with a double shell.

I am greatly indebted to Mr. C. F. Rousselet for the drawings from nature, both of the ventral and side views, illustrating this paper.

Length, total,  $\frac{1}{2}$  to  $\frac{1}{6}$  in., of body alone  $\frac{1}{7}$  in.

Habitat, Marsh pool near Blairgowrie, Perth.

#### EXPLANATION OF PLATE.

- Fig. 1. *Floscularia cucullata*, side view.  
 „ 2. „ „ anterior part, front view.  
 „ 3. „ „ the male.